REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 1 and 3-15 are pending; Claims 3-6, 8-10, 13 and 15 are withdrawn from consideration; Claims 1, 11, 12 and 14 are amended; and no claims are canceled or newly added herewith. It is respectfully submitted that no new matter is added by this amendment.

In the outstanding Office Action, Claim 2 is objected to; Claims 1, 2, 7 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,585,039 to Sagal et al. in view of U.S. Patent No. 5,309,986 to Itoh and further in view of U.S. 2004/0194944 A1 to Hendricks et al.; and Claims 12 and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over Sagal in view of Itoh and further in view of U.S. 2002/0195232 A1 to Katsui.

With respect to the objection to Claim 2, Claim 2 was indicated as canceled in the remarks section of the previous amendment. However, Claim 2 was not indicated as canceled in the claims section. This error has been corrected. Accordingly, withdrawal of the objection to Claim 2 is respectfully requested.

With respect to the rejection of the claims under 35 U.S.C. § 103(a), these rejections are respectfully traversed. Specifically, the applied art does not teach or suggest a container having a first and second tapered end, with the first tapered end including a heat input section for receiving heat generated by a heating element, and the second tapered end including a heat output section for radiating the heat outside, the container having a groove that extends from the first tapered end to the second tapered end, and wherein the thermoconductive material forming the container includes carbon nanotubes, as claimed in Claim 1 and similarly recited in the remaining independent claims.

Instead, Sagal discloses a cylindrical heat pipe 12 with a phase change media 28 contained therein. As shown in Fig. 1, the diameter of the heat pipe 12 remains constant. As shown in Fig. 3, the heat pipe 22 includes contact pads 24 that are integrally molded to the heat pipe 20. The upper surface 26 of contact pad 24 is mated with the surface to be cooled on one end X and the surface to dissipate the heat on the other end Y.

Itoh discloses that the heat pipe has a constant diameter and includes a container 1 that has a flat bottom wall 11 that is the heat receiving portion in a top wall 12 opposite to bottom wall 11. Liquid passage elements for removing condensed heat carrier are formed on the inner wall surfaces of the container 1. As shown in Fig. 3, a plurality of grooves 15 extend diagonally with respect to the longitudinal axis 16 and are formed on the inner surface of bottom wall 11.

The Office Action relies on Hendricks to expressly disclose the carbon nanotubes. However, Hendricks merely discloses that cooling fluid that can be circulated through a tubular coolant loop 16 in and/or around the heat source 14 so that the fluid absorbs heat from the heat source 14. A carbon nanotube heat-exchange system 10 includes a microchannel structure 24 and a carbon nanotube structure 26 arranged in thermal contact with the microchannel structure 24 in order to dissipate the heat to a flowing medium surrounding the carbon nanotube composite structure. As such, as best seen in Fig. 1, the nanotube structure is only formed at the heat output area of the heat-exchange system 10.

In contrast, the claimed invention recites that the entire container is composed of a resin containing the thermoconductive material having carbon nanotubes. In this way, the thermal resistance of the resin can be reduced in order to enhance the thermal conductivity, and also the mechanical strength of the resin can be increased. The features of the claimed invention are not shown in the applied art and therefore, the applied art cannot provide at least the advantages discussed above.

Accordingly, none of the applied are teaches or suggests a container having a first and second tapered end, the first tapered end including a heat input section for receiving heat generated by a heating element, and the second tapered end including a heat output section for radiating the heat outside, the container composed of a resin containing a thermoconductive material including carbon nanotubes wherein the container has a groove to generate a capillary force that extends from the first tapered end to the second tapered end.

Consequently, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below-listed telephone number.

Respectfully submitted,

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